UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450

NOTICE OF ALLOWANCE AND FEE(S) DUE

28213 7590 DLA PIPER LLP (US) 4365 EXECUTIVE DRIVE SUITE 1100 SAN DIEGO. CA 92121-2133

08/04/2011

EXAMINER REESE, HEIDI L

ART UNIT PAPER NUMBER

1625

DATE MAILED: 08/04/2011

 APPLICATION NO.
 FILING DATE
 FIRST NAMED INVENTOR
 ATTORNEY DOCKET NO.
 CONFIRMATION NO.

 10/573/945
 03/07/2007
 Phillip A. Beachy
 JHU 1920-1
 2047

TITLE OF INVENTION: HEDGEHOG PATHWAY ANTAGONISTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	11/04/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 1SI. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or Fax (571)-273-2885

appropriate. All further indicated unless corrects maintenance fee notifica	correspondence includir ed below or directed oth	ng the Patent, advance of therwise in Block 1, by	orders and notification of a (a) specifying a new corre	maintenance fees wil spondence address; a	If be mailed to the current and/or (b) indicating a sepa	correspondence address as trate "FEE ADDRESS" for
	ENCE ADDRESS (Note: Use Bi	lock 1 for any change of address)	Not Fee pap hav	e: A certificate of m (s) Transmittal. This ers. Each additional e its own certificate of	nailing can only be used for certificate cannot be used for paper, such as an assignment of mailing or transmission.	or domestic mailings of the for any other accompanying nt or formal drawing, must
DLA PIPER L 4365 EXECUTI SUITE 1100 SAN DIEGO, C	LP (US) VE DRIVE	42011	I he Stat add tran	Certi reby certify that this les Postal Service wi ressed to the Mail smitted to the USPT	ficate of Mailing or Trans Fee(s) Transmittal is being th sufficient postage for firs Stop ISSUE FEE address O (571) 273-2885, on the day	mission g deposited with the United st class mail in an envelope above, or being facsimile ate indicated below.
						(Depositor's name)
			_			(Signature)
						(Date)
APPLICATION NO.	FILING DATE		FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,945	03/07/2007		Philip A. Beachy		JHU1920-1	2047
TITLE OF INVENTION	: HEDGEHOG PATHW	AY ANTAGONISTS				
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nonprovisional	YES	\$755	\$300	\$0	\$1055	11/04/2011
EXAM	IINER	ART UNIT	CLASS-SUBCLASS]		
REESE,		I625	546-337000			
I. Change of correspondence address or indication of "Fee Address" (37 CFR 1.85). CRAINED STANDARD OF Correspondence address for Change of Correspondence Address form PTO/SB/1/22) attached: Tee Address 'indication (or 'Fee Address' Indication form PTO/SB/47, Rev 03-92 or more recent) attached. Use of a Customer Number is required.			(1) the names of up to 3 registered patent atomeys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered atomey or agent) and the names of up to 2 registered patent atomeys or agent. If no name is miscal, no name with permitted.			
PLEASE NOTE: Uni recordation as set fort (A) NAME OF ASSI	less an assignee is ident h in 37 CFR 3.11. Comp GNEE	ified below, no assigned pletion of this form is NO	(B) RESIDENCE: (CITY	atent. If an assigned assignment. Y and STATE OR CO	ŕ	
Please check the appropr	iate assignee category or	r categories (will not be p	orinted on the patent):	Individual	poration or other private gro	oup entity Government
4a. The following fee(s)	are submitted:	4		ase first reapply any	previously paid issue fee	shown above)
Issue Fee	io emall entity discount r	nermitted)	A check is enclosed. Payment by credit car	rd Form PTO-2038 i	e attached	
☐ Publication Fee (No small entity discount permitted) ☐ Advance Order - # of Copies			The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (enclose an extra copy of this form).			
5. Change in Entity Sta	tus (from status indicates	d above)	очеграушен, то дерс	sat Account Number	(enclose a	ii extra copy or this form).
a. Applicant claim	s SMALL ENTITY state	us. See 37 CFR 1.27.			ENTITY status. See 37 Cl	
NOTE: The Issue Fee an interest as shown by the	d Publication Fee (if req records of the United Sta	uired) will not be accept ates Patent and Trademar	ed from anyone other than t k Office.	he applicant; a regist	tered attorney or agent; or the	ne assignee or other party in
Authorized Signature						
Typed or printed name		Registration No.				
	nation is required by 37 C tiality is governed by 35 d application form to the ions for reducing this but i'ireinia 22313-1450. DO	FR 1.311. The informati U.S.C. 122 and 37 CFR USPTO. Time will var rden, should be sent to to NOT SEND FEES OR	ion is required to obtain or R 1.14. This collection is es y depending upon the indi- the Chief Information Offic COMPLETED FORMS To	retain a benefit by the timated to take 12 m ridual case. Any con er, U.S. Patent and T O THIS ADDRESS.	e public which is to file (an inutes to complete, includir ments on the amount of ti- rademark Office, U.S. Dep. SEND TO: Commissioner	I by the USPTO to process) ag gathering, preparing, and me you require to complete artment of Commerce, P.O. for Patents, P.O. Box 1450,

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OMB 0651-0033



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Vincina 22313-1450

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28213 7590 08/04/2011			EXAMINER		
DLA PIPER LLP (US)			REESE, HEIDI L		
4365 EXECUTIVE DRIVE					
SUITE 1100			ART UNIT	PAPER NUMBER	
SAN DIEGO, CA 92121-2133			1625		

DATE MAILED: 08/04/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- The information on this form will be treated confidentially to the extent allowed under the Freedom
 of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of
 records may be disclosed to the Department of Justice to determine whether disclosure of these
 records is required by the Freedom of Information Act.
- A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement neeotiations.
- 3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2004 and 2006. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals
- 8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
- A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

	10/573,945	BEACHY ET AL.				
Notice of Allowability	Examiner	Art Unit				
	Heidi Reese	1625				
The MAILING DATE of this communication app All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-95) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in this app or other appropriate communication IGHTS. This application is subject to	lication. If not included will be mailed in due course. THIS				
1. X This communication is responsive to amendment filed 4/26	<u>5/2011</u> .					
 The allowed claim(s) is/are <u>2-5, 42, and 43</u>. 						
 Acknowledgment is made of a claim for foreign priority ur 	nder 35 U.S.C. § 119(a)-(d) or (f).					
a) □All b) □ Some*c) □ None of the:						
 Certified copies of the priority documents have 						
 Certified copies of the priority documents have 						
Copies of the certified copies of the priority do	cuments have been received in this r	national stage application from the				
International Bureau (PCT Rule 17.2(a)).						
* Certified copies not received:						
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.		complying with the requirements				
 A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which give 						
5. CORRECTED DRAWINGS (as "replacement sheets") must	5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.					
(a) including changes required by the Notice of Draftspers	(a) 🔲 including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached					
 hereto or 2) to Paper No./Mail Date 						
(b) including changes required by the attached Examiner's Paper No./Mail Date	s Amendment / Comment or in the O	ffice action of				
Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in t	.84(c)) should be written on the drawir he header according to 37 CFR 1.121(c	gs in the front (not the back) of l).				
DEPOSIT OF and/or INFORMATION about the depo attached Examiner's comment regarding REQUIREMENT						
Attachment(s) 1. Notice of References Cited (PTO-892)	5. Notice of Informal P	atent Application				
Notice of Draftperson's Patent Drawing Review (PTO-948)	6. ☐ Interview Summary					
	Paper No./Mail Dat	ė				
Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date	7. Examiner's Amenda					
 Examiner's Comment Regarding Requirement for Deposit of Biological Material 	8. L Examiner's Stateme	nt of Reasons for Allowance				
	9. Other					
/Heidi Reese/	/Janet L. Andres/					
Examiner, Art Unit 1625	Supervisory Patent Exa	miner, Art Unit 1625				

Application No.

Applicant(s)